



WORLD DATA CENTER A FOR ROCKETS AND SATELLITES

92-03

National Space Science Data Center
Data Archive and Distribution Service
(*NDADS*)
Automated Retrieval Mail System
User's Guide

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April 1, 1992



National Aeronautics and
Space Administration

Goddard Space Flight Center

(NASA-TM-107990) NATIONAL SPACE
SCIENCE DATA CENTER DATA ARCHIVE
AND DISTRIBUTION SERVICE (NDADS)
AUTOMATED RETRIEVAL MAIL SYSTEM
USER'S GUIDE (NASA) 34 p

N93-12150

Unclass

G3/82 0121330

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Contents

1	Introduction	3
2	Submitting Data Requests	6
2.1	Electronic Mail Submission	6
2.2	Information Via Mail	9
2.2.1	Holdings Via Mail	10
2.2.2	Status Via Mail	11
3	Available Data	13
3.1	Available <i>ADC</i> Data	13
3.2	Available <i>DE</i> Data	14
3.3	Available <i>HEAO2</i> Data	15
3.4	Available <i>HEAO3</i> Data	17
3.5	Available <i>HST</i> Data	17
3.6	Available <i>IRAS</i> Data	18
3.7	Available <i>IUE</i> Data	19
3.8	Available <i>NRAO</i> Data	20
3.9	Available <i>SKYLAB</i> Data	21
3.10	Available <i>VELA5B</i> Data	21
4	Explanation of Fields	22
4.1	Project	22
4.2	Data Type	22
4.3	Data Format	25
4.4	Remote Access	26
4.4.1	Destination Directory	26
4.4.2	Requester Account Transfer Information	27

4.4.3	Non-Password Account Transfer Information	27
5	File Transfer Information and Examples	29
5.1	FTP File Transfer Example	29
6	Computer Network Addresses	31
6.1	NDADS Computer Addresses	31
7	Informational and Error Messages	32
8	For Further Assistance	34

Chapter 1

Introduction

The National Space Science Data Center (NSSDC) has developed an automated data retrieval request service utilizing our Data Archive and Distribution Service (NDADS) computer system.

NDADS currently has selected project data written to optical disk platters with the disks residing in a robotic "jukebox" near-line environment. This allows for rapid and automated access to the data with no staff intervention required. There are also automated help information and user services available that can be accessed.

The request system permits an average-size data request to be completed within minutes of the request being sent to NSSDC. A mail message, in the format described in this document, retrieves the data and can send it to a remote site.

Also listed in this document are the data currently available. New data are being added on a daily basis. Because of the growing volume of new data products and frequent additions to existing available data sets this document will be revised regularly. The current Astrophysics and Space Physics data sets loaded into the NDADS facility are the *ADC* holdings, *DE*, *HEAO2*, *HEAO3*, *HST*, *IRAS*, *IUE*, *NRAO's* Green Bank sky map data and documentation, *SKYLAB*, and *VELA5B* data.

The Astronomical Data Center (*ADC*) is placing its astronomical catalogs with NDADS. Catalogs are being added from NSSDC's standard tape media archive to the NDADS system for automated retrieval availability.

The two Dynamics Explorer spacecraft were launched for the Dynamics Explorer program on 3 August 1981. They were launched into coplanar

polar orbits at different altitudes for the purpose of studying interactive processes within the atmosphere-ionosphere-magnetosphere system. Dynamics Explorer 2 re-entered the atmosphere on 19 February 1983, and Dynamics Explorer 1 operations ceased in January, 1991.

The general objective of the Dynamics Explorer program is to investigate magnetosphere-ionosphere-atmosphere coupling processes. Specific objectives fall into five categories: (1) electric field induced convection; (2) magnetosphere-ionosphere electric currents; (3) direct energy coupling; (4) mass coupling; and (5) wave, particle, and plasma interactions.

The *DE 1* Spin-scan Auroral Imager (SAI) data is currently available from the NDADS system. Data from the other instruments, the Energetic Ion Composition Spectrometer (EICS), High Altitude Plasma Instrument (HAPI), Plasma Wave Instrument (PWI), and Retarding Ion Mass Spectrometer (RIMS) are planned additions in the near future.

The *HEAO2* data from the Imaging Proportional Counter (IPC) and the High Resolution Imager (HRI) are currently being loaded into NDADS. These are data sets that have been distributed to the community, in eight CD-ROMS which include the catalog of IPC X-ray sources, the IPC Slew survey, the HRI images, and the HRI event lists.

The *HEAO3* data is from the anti-coincidence shield surrounding the germanium gamma-ray spectrometer. The shield served as an all-sky monitor for solar flares and cosmic gamma-ray bursts.

The Hubble Space Telescope (*HST*) data is from the Early Release observations. This holding contains some of the first results obtained with the Hubble Space Telescope cameras. In addition the spacecraft close out pictures of *HST* are also available.

The InfraRed Astronomical Satellite (*IRAS*) data is still being written to the optical disk platters; however, most of the NSSDC's *IRAS* data holdings are already written to optical disk and available to the public. This includes the latest *IRAS* Sky Survey Atlas (ISSA), just released to the public in mid-January 1992. Work has begun on writing the new Faint Source Survey (FSS) data to optical disk. With the FSS volume of 78GBs of data, completion of the task will probably take until early this fall.

The International Ultraviolet Explorer's (*IUE*) current data archives are available through the NDADS automated retrieval mail system. There are data format conversion options available. When the *IUE* project produces the Final Archive formatted data, this will also be placed on NDADS for

public access.

Data available from the National Radio Astronomers' Observatory (*NRAO*) include the Green Bank 1400 MHz sky maps covering the declination band of -5 deg to +82 deg, and the 4.85GHz sky maps covering 0 deg to +75 deg and their associated documentation.

The *SKYLAB* digitized images from the X-Ray telescope, experiment S-054, are now available. The data were collected from May 1973 until February 1974. In total, approximately 35,000 images of the sun in soft X-rays were made on 70-mm photographic film by the S-054 X-ray Spectrographic Telescope. Approximately 10 percent of these images were digitized by scientists at American Science & Engineering (the instrument's builder), using a microdensitometer. There are data files containing full-sun images (typically 1243 x 1244 pixels or 1400 x 1401 pixels), and data files containing selected parts of the full-sun images, having assorted dimensions. Some of the image files contain results of special investigations, such as energy flux values derived from the film densities. The catalog of available types of images is being compiled.

The *VELA5B* Cosmic X-ray data is a position-ordered data set from the all-sky survey conducted by the scintillation X-ray detector in 3 to 12 keV.

Chapter 2

Submitting Data Requests

2.1 Electronic Mail Submission

For data requests to be sent via E-mail and then processed automatically, a mail message should be sent to the NDADSA::ARCHIVES account. The body of the mail message is submitted to the NDADS batch queue with the project and data type taken from part of the subject line.

The body of the message should be the list of requested data IDs. The Data Format field is the output format desired. The Remote Access field describes the remote node, the user name, and password information necessary for copying the requested files to a location not on the *NDADS* cluster. If a remote location is not specified, then the data are written to an Anonymous directory with the subdirectory the project name on NDADS. Examples of the default anonymous directory locations are: IUE data is written to NDADSA::ANON_DIR:[IUE] for *IUE* data requests, NDADSA::ANON_DIR:[IRAS] for *IRAS* data requests, or NDADSA::ANON_DIR:[ADC] for *ADC* data requests. The format is very simple, NDADSA::ANON_DIR:[projectname].

In both examples shown below, the body of the mail message would be the entry IDS of the data requested. A mail request sent via the NSI-DECnet (formerly SPAN) network should look like:

```
Send to:  NDADSA::ARCHIVES
Subject:  REQUEST Project_name Data_type [Data_format [Remote_access]]
```


An example of a mail request sent via Internet should look like the example shown below.

```
Send to: SMTP%"ARCHIVES@NDADSA.GSFC.NASA.GOV"  
Subject: REQUEST Project_name Data_type [Data_format [Remote_access]]
```

Shown below is an example of a person (account name RUBY) running under a UNIX system, computer node name EMERALDCITY, sending a request for *IRAS* data to NDADS ARCHIVES.

```
emeraldcity: mail archives@ndadsa.gsfc.nasa.gov  
Subject: request iras data  
zohf_30_029  
(A Control-D closes the mail message)
```

A mail message is sent by NDADS ARCHIVES, to user RUBY at computer node EMERALDCITY, when it has completed copying the requested data to the NDADS staging area. The following is an example of such a message, sent by ARCHIVES to the person who had requested IRAS data in the preceeding example.

```
From ARCHIVES@ndadsc.gsfc.nasa.gov Mon Mar 30 14:19:36 1992  
Received: from ndadsc.gsfc.nasa.gov by nssdcs.gsfc.nasa.gov (5.61/1.35)  
id AA01668; Mon, 30 Mar 92 14:19:35 -0500  
Date: Mon, 30 Mar 1992 14:21:11 -0500 (EST)  
From: ARCHIVES@ndadsc.gsfc.nasa.gov  
Message-Id: <920330142112.2060033e@ndadsc.gsfc.nasa.gov>  
Subject: FSTAGE-Successful  
To: ruby@emeraldcity.gsfc.nasa.gov  
X-Vmsmail-To: smtp%"ruby@emeraldcity.gsfc.nasa.gov"  
Status: R  
Email : ruby@emeraldcity.gsfc.nasa.gov  
eidfile : projects1:[archives.delivery]fstage_556fef40009585b01.eid  
Project : iras  
Datatype : data
```

logfile : projects1:[archives.delivery.log]fstage_556fef40009585b01.re
Result dir : anon_dir:[iras]
Inv Name :
Version :
Option :
Start time : 30-MAR-1992 14:20:15.40

=====

Total number of entries found 1

ZOHF_30_029 anon_dir:[iras]ZOHF_30_029.DAT;1 copied

=====

All data has been copied to NDADSA:: or ndadsa.gsfc.nasa.gov

=====

End time : 30-MAR-1992 14:21:03.44

It is possible to create a file listing the data you wish to request in your user account and to submit the file in place of typing the individual entries in the body of your mail message request. For submitting a file using the automatic mail request, see the following example.

User account RUBY, on NSI-DECnet (formerly SPAN) node NSSDCA, wants to request *IUE* Extracted data. The data request can be entered into a separate file called YOU_NAMEIT.EID and RUBY can send this file in place of typing each entry individually into the body of the mail message.

```
MAIL> SEND/NOEDIT YOU_NAMEIT.EID
      TO: NDADSA::ARCHIVES
      SUBJECT: REQUEST IUE EXTRACT
```

An example of the entry file "YOU_NAMEIT.EID", requesting *IUE* data would look like this:

SWP06981
SWP06892
SWP06983
SWP06984
SWP06985
SWP06986

Shown below is an example of an automatic mail request, requesting the conversion of *IUE* data from Guest Observer (GO) format to the RDAF format and then having NDADS::ARCHIVES copy the requested files via FTP to the requester's network node.

```
MAIL> SEND/NOEDIT YOU_NAMEIT.EID
      to: SMTP%"ARCHIVES@NDADSA.GSFC.NASA.GOV"
SUBJECT: REQUEST IUE RAW RDAF NSSDCA.GSFC.NASA.GOV|RUBY|SLIPPERS|SPOTS:[DATA]
```

Again, this is following the defined format on the subject line of:

```
Send to:  ARCHIVES@NDADSA.GSFC.NASA.GOV
Subject:  REQUEST Project_name Data_type [Data_format [Remote_access]]
```

2.2 Information Via Mail

For information to be automatically returned via NSI-DECnet (formerly SPAN), simply change the subject line as shown below.

```
Send to:  NDADSA::ARCHIVES
Subject:  SEND Information
      -or-
Subject:  HELP
```

The following is a VMS mail example using Internet. For information to be automatically returned via Internet, simply change the subject line again:

```
* Send to:  SMTP%"ARCHIVES@NDADSA.GSFC.NASA.GOV"
      -or possibly-
* Send to:  IN%"ARCHIVES@NDADSA.GSFC.NASA.GOV"
      *(whichever your site supports)
Subject:  SEND Information
      -or-
Subject:  HELP
```

To send a mail message to NDADS ARCHIVES requesting "send information" from a UNIX system whose computer node name is EMERALDCITY, use the format of the example shown below.

emeraldcity: mail archives@ndadsa.gsfc.nasa.gov
Subject: send information
(A Control-D closes the mail message)
Null message body; hope that's ok

No information is required in the body of the mail message in order to receive a reply. Since this is an automated informational help, staff members will not read the mail message. Any additional requests for assistance should be sent to the computer address or staff contact listed in the chapter titled "For Further Assistance."

2.2.1 Holdings Via Mail

You may get information automatically returned via electronic mail on the most current available data holdings of the NDADS ARCHIVES. Simply type on the subject line the word "HOLDINGS" and the project data you are interested in. If no project name is entered, then a general listing of the projects that are currently available is sent.

For information to be automatically returned via NSI-DECnet (formerly SPAN), use the form shown in the example below.

Send to: NDADSA::ARCHIVES
Subject: HOLDINGS IRAS
-or-
Subject: HOLDINGS

For information to be automatically returned via Internet, use the form shown in the example below.

* Send to: SMTP%"ARCHIVES@NDADSA.GSFC.NASA.GOV"
-or possibly-
* Send to: IN%"ARCHIVES@NDADSA.GSFC.NASA.GOV"
*(whichever your site supports)
Subject: HOLDINGS ADC

-or-
Subject: HOLDINGS

2.2.2 Status Via Mail

You may get information automatically returned via electronic mail on the current status of the NDADS computer and/or its optical disk jukeboxes. A user may find this service interesting if they wish to check on the ready status of the NDADS system.

For information to be automatically returned use the following format:
via NSI-DECnet (formerly SPAN)

Send to: NDADSA::ARCHIVES
Subject: STATUS

-or via Internet-

* Send to: SMTP%"ARCHIVES@NDADSA.GSFC.NASA.GOV"
 -or possibly-
* Send to: IN%"ARCHIVES@NDADSA.GSFC.NASA.GOV"
 *(whichever your site supports)
Subject: STATUS

Shown below is an example of the message you will receive. The "status" field indicates whether the actual device is currently connected to the NDADS computer. If an "ONLINE" is displayed, then the device is active and ready for use. If an "OFFLINE" is displayed, then the device is having technical difficulties and cannot be accessed by the computer. Sometimes a device may show "ONLINE,OCCUPIED" status, with an optical platter name also being shown. This means that that disk drive device is allocated and in use by a user accessing that particular optical disk. An example of a disk drive status report follows.

JIMS Status Information

JukeBox name: "JB01" path: "JB01" status: ONLINE

LDA0 ONLINE, EMPTY

LDA1 ONLINE, EMPTY

JukeBox name: "JB02" path: "JB02" status: ONLINE

LDA2 ONLINE, EMPTY

LDA3 ONLINE, OCCUPIED "SKYLAB_001B.\$SOAR\$"

Device	Volume	Size	Free
\$1\$QSA3:	SKYLAB_001B	6552000	3081200

JukeBox name: "OJB03" path: "OJB03" status: ONLINE

DUC0 ONLINE, EMPTY

DUC1 OFFLINE, EMPTY

Chapter 3

Available Data

The request file should contain the list of data identifiers appropriate for the project and data type.

3.1 Available *ADC* Data

The basic *ADC* form must contain the Data Center name, catalog type, catalog number, and source code as shown below.

Data_center: A: ADC Astronomical Data Center,

Catalog_type: 1-8,

Catalog_number: 3 digit catalog number, and

Source_code: optionally a single letter code indicating source of the data.

The table below shows the *ADC* data types available and the formats that are required.

Project	Data Type	Entry ID Form	Example
ADC	FLAT	Axyyy	A1087
		AxyyyC	A1086B
	FITS	Axyyy	A6044
		AxyyyC	A1131A
	ALL	AxyyyC	A7001A

The different types of Astronomical data are broken down into the catalog types listed below. This will be entered as the first number following the Data Center code (i.e. A1, A2, A3 etc.).

Category	Type	Name
1		Astrometry
2		Photometry
3		Spectroscopy
4		Crossindex
5		Combined
6		Miscellaneous
7		Nonstellar
8		Radiosource

3.2 Available *DE* Data

The basic *DE* form must contain the date of the data requested, entered as shown under the Entry ID form.

Project	Data Type	Entry ID	Example
DE	SAI	yydddhh	8126619
- or -		yydddhhmmss	81266193831

3.3 Available *HEAO2* Data

The basic *HEAO2* form must contain the date of the data requested, entered as shown under the Entry ID form.

Project	Data Type	Entry ID Form	Example
HEAO2	AUXDATA	ixxxxxxx	I1213333
		ihhmsdd	H0316N41
		ihhmsdd	S2328S48
			ULA
			VIG
			DEADTIME
			FCENINDX
			FIELD
			IPCSLIST
			SEQNINDX
			SOURCE
	INTENSITY	ihhmsdd	H0503N46
		ihhmsdd	I1028N29
		ihhmsdd	M1812N41
	REL_EXPOSURE		BEMAP
		ihhmsdd	I0200S09
	EVENT	ihhmsdd	M0643S16
		ihhmsdd	H0201N64
		ihhmsdd	S2312S42
	CALIBRATE		AG 2.98H

HEAO2 DATA SETS - CONTINUED

Project	Data Type	Entry ID Form	Example
HEAO2	CALIBRATE		AL_1.49H B_0.187H CR_0.57H CU_0.93H C_0.277H FE_0.70H ZR_2.04H CRAB H4390L H4532L H4996L H6564L H711L H936L M101 M31

The entry id names are composed of the instrument mode "i" ("H" for HRI, "I" for IPC, "M" for merged IPC, and "S" for SLEW) followed by either the *HEAO2* Universal Time (a 7 digit number giving the initial major frame number in units of 40.96 seconds) or the field center (given by the Right Ascension "hhmm", the Delination "dd" and the declination sign "s" as "N" or "S"). A given entry id may return more then one file or type of file.

3.4 Available *HEAO3* Data

The basic *HEAO3* form must contain the date of the data requested, entered as shown under the Entry ID form.

Project	Data Type	Entry ID Form	Example
HEAO3	SHIELD	yy_ddd	79_266
	COUNT	yy_ddd	79_266

The file name is YY_DDD, where YY is the year, DDD the day of the year the data covers. The file name is the start date of the first major frame of the file. There are multiple records with their start dates in each of the files. The data runs from 1979 day 266 (79_266) through 1981 day 149 (81_149). Each record corresponds to ten 1.28 second major frames. Orbit number, major frame number, time, attitude, and count data are included.

3.5 Available *HST* Data

The basic *HST* form must contain the data entry ID as shown in the chart below. For a complete listing of the available data, please request it using *HST* HOLDINGS.

Project	Data Type	Entry ID Form	Example
HST	IMAGE	xxxxxxxxxx	w0bs0102t
		xxxxxxx	f555wa
	SPECTRA	xxxxxxxxxxxxx	averdd5106m
		xxxxxxxxxxxxxxxxx	fpsplitde0106t
	CLOSEOUT	Pxxxxxx	P16457
		HSTDATx	HSTDAT2 or HSTDATA
		README	README
		UNZIP	UNZIP

3.6 Available *IRAS* Data

The basic *IRAS* form must contain the product, plate_number, HCON, and band width as shown in the following tables.

IRAS DATA SETS

Product_name:	PL	for Sky Plates
	GPL	for Galactic Plane
	ALLSKY_G	for All Sky maps
	DS	for Deep Sky plates
	ZOHF_30	for Zodiacal History 30 arc min
	ZOHF_02	for Zodiacal History 2 arc min
	ZODSPR_30	for Zodiacal History 30 arc min
		Bright Point Source-Removed
	I	ISSA Sky Survey Atlas
	FSS_P	Faint Source Survey
Plate_number:	PL:	001-212
	GPL:	00-23
	DS:	00001-15800
	ALLSKY_G:	C (galactic center), A (anti-center)
	ZOHF:	029-600
	ZODSPR:	029-600
	I:	001-430
	FSS:	0001-1716
HCON_number:	0	Average of HCON 1-3 for ISSA
	1	
	2	
	3	
Band_number:	1	12 micron
	2	25 micron
	3	60 micron
	4	100 micron

IRAS DATA TYPES TABLE

Project	Data Type	Entry ID Form	Example
IRAS	INTE	PLxxxHyBz	PL032H2B3
		GPL_xx_HyBz	GPL_14_H1B2
		ALLSKY_Gc_HyBz	ALLSKY_GC_H2B4
		IxxxBzHy	I012B1H0
	STAT	PLxxxHyBz	PL132H3B1
		GPL_xx_HyBz	GPL_23_H2B3
		DSxxxxxBz	DS02356B1
		ALLSKY_Gc_HyBz	ALLSKY_GA_H1B1
	FLUX	DSxxxxxBz	DS12356B3
	COUNT	FSS_PxxxxBy	FSS_P0023B1
	ALL	PLxxxHyBz	PL211H2B3
	DATA	ZOHF_xx_xxx	ZOHF_30_029
		ZODSPR_xx_xxx	ZODSPR_30_100

3.7 Available IUE Data

The basic *IUE* form must contain the camera name and image sequence number as shown below.

Camera_name: LWP, LWR, SWP, SWR, or FES

Image_sequence_number: 01000-99999

(NOTE: Image sequence numbers must be left-zero filled, if needed.)

The table below shows the IUE data types available.

Project	Data Type	Entry ID Form	Example
IUE	RAW	CCCnnnnnn	LWP13245
	ELBL	CCCnnnnnn	LWR01045
	MELO	CCCnnnnnn	SWP35639
	MEHI	CCCnnnnnn	SWR01072
	ELBL1	CCCnnnnnn	LWP29731
	ELBL2	CCCnnnnnn	LWR12345
	MELO1	CCCnnnnnn	SWP03435
	MELO2	CCCnnnnnn	SWR05678
	ALL	CCCnnnnnn	LWP04386
	EXTRACT	CCCnnnnnn	SWP34510

3.8 Available NRAO Data

The basic *NRAO* form must contain the data entry ID as shown in the chart below.

Project	Data Type	Entry ID Form	Product Name	Example	Ranges
NRAO	FITS	hhHddD	1400 MHz sky maps	03H15D	00 - 23 H and 00 - 75 D
		AhhmmDdd	4.85 GHz sky maps	A1340D60	A0000 - A2340 (every 40min) D00 - D70 (unit of 10)
		ceeee.hhH	1987 Green Bank source catalog	B1950.21H	ceeee: B1950 or J2000 00H - 23H
	FLAT	ceeee.hhH	1987 Green Bank source catalog	J2000.09H	ceeee: B1950 or J2000 00H - 23H
	IMAGE	hhHddD	1400 MHz sky maps	03H15D	
		AhhmmDdd	4.85 GHz sky maps	A1340D60	
		ceeee.hhH	1987 Green Bank source catalog	B1950.21H	
	TEXT	ceeee.hhH	1987 Green Bank source catalog	J2000.09H	
	DOC	README.DOS	Original CD-ROM Documentation		
		README.TXT			
		MATCH.F	Original programs and support files from CD-ROM		
		MATCH.FOR SELECT.F SELECT.FOR RAID1400.RUN RAID4850.RUN			

This data set is derived from the *NRAO* CD-ROM that contains the Green Bank 1400 MHz sky maps covering the declination band -5 deg to +82 deg, the Green Bank 4.85 GHz sky maps covering 0 deg to +75 deg, and the catalog of radio sources covering 0 deg to +75 deg at 4.85 GHz as machine readable FITS-format images and extension tables. A standard text version of the source catalog is also included.

There is a third data type called DOC that includes the original README.TXT file as well as software for use with the data. However, most map analysis requires additional software (such as AIPS or IRAF) that is capable of reading FITS images and manipulating them.

3.9 Available *SKYLAB* Data

The basic *SKYLAB* form must contain the date as shown in the chart below.

Project	Data Type	Entry ID	Example
SKYLAB	IMAGE	yymmdd	730602
- or -		yymmdd_hhmmss	730602_165550

3.10 Available *VELA5B* Data

The basic *VELA5B* form must contain the coordinate box number, as shown below.

Project	Data Type	Entry ID	Example
VELA5B	DATA	Bxxxxx	B01234

xxxxxx refers to the coordinate box number, between 00009 and 11992, which is a 2-degree by 2-degree box of the celestial sphere.

Chapter 4

Explanation of Fields

This chapter explains the fields of the various forms in the sequence they need to appear. It also describes what information is acceptable to each of the fields.

4.1 Project

The currently acceptable project names are *ADC*, *DE*, *HEAO2*, *HEAO3*, *HST*, *IRAS*, *IUE*, *NRAO*, *SKYLAB*, and *VELA5B*.

4.2 Data Type

Valid data types are listed by project in the following table.

DATA TYPE TABLE

Project	Data Type Name	Actual Components
ADC	FLAT	Flat ASCII text tables
	FITS	FITS ASCII tables
	ALL	All actual data types (FLAT and FITS)
DE	SAI	Spin-Scan Auroral Images
HEAO2	AUXDATA	variable format
	CALIBRATE	FITS format
	INTENSITY	FITS format
	REL_EXPOSURE	FITS format
	EVENT	FITS format
HEAO3	SHIELD	Flat text format
	COUNT	Flat text format (same as SHIELD)
HST	IMAGE	FITS Images from WF/PC and FOC
	SPECTRA	FITS Spectra from FOS and GHRS
	CLOSEOUT	Targa spacecraft closeout pictures
IRAS	INTE	Intensity images (Jy/Sr)
	FLUX	Flux images (Jy)
	STAT	Noise or Statistical Weight images
	COUNT	Number of passes over given detector cell
	CATALOG	Catalog data products
	ALL	All actual data types (INTE, FLUX and STAT)
	DATA	Flat text format

DATA TYPE TABLE - CONTINUED

Project	Data Type Name	Actual Components
IUE	RAW	Raw images
	PI	Photometrically-corrected image
	ELBL	Extracted Line-By-Line
	MELO	Merged Extracted Low Dispersion
	MEHI	Merged Extracted High Dispersion
	ELBL1	ELBL restricted to only *.elbl1 files
	ELBL2	ELBL restricted to only *.elbl2 files
	MELO1	MELO restricted to only *.melo1 files
	MELO2	MELO restricted to only *.melo2 files
	ALL	All actual data types (RAW, PI, ELBL, MELO, and MEHI)
	EXTRACT	All actual extracted data types (ELBL, MELO, and MEHI)
NRAO	FITS	FITS ASCII tables
	FLAT	Flat text format
	IMAGE	Sky maps and source catalog
	TEXT	Flat text format
	DOC	Flat text format
SKYLAB	IMAGE	Flat text format
VELA5B	DATA	Flat text format

4.3 Data Format

The valid data formats are given below by project.

Project	Data Type Name	Data Format
ADC	NONE	Native format
HEAO2	NONE	Native format
HEAO3	NONE	Native format
HST	NONE	Native format
IRAS	† FITS	Native FITS format
	NONE	Native FITS format
IUE*	GO	Native Guest Observer format (1 file)
	RDAF	IUE RDAF format (2 files)
	GO-SPLIT	IUE modified GO format (2 files)
	NONE	Native Guest Observer format (1 file)
NRAO	† FITS	Native FITS format
	NONE	Native format
SKYLAB	NONE	Native format
VELA5B	NONE	Native format

* When no Data Format is specified for IUE, then the default format is GO. When requesting IUE data in RDAF format, the mail notification received concerning your images will refer to the images by their original GO format name, rather than by the RDAF conversion format name.

† Default format.

4.4 Remote Access

Remote access information must be entered as shown below.

NODE_NAME|USER_NAME|PASSWORD|DESTINATION_DIRECTORY

We are providing this feature for requesters who prefer that the data be sent directly to them as part of the their requested action performed by NDADS.

Remember that you are entering your account password, and we cannot guarantee that this information will be completely secure. We would therefore recommend the use of one of the methods explained in the subsection that follows for data file transfers because of possible computer security concerns. You may wish to discuss this with your Systems Manager.

We do not keep passwords that are sent with a data request. There are no logs or records kept with password information stored in them. Your password is only in NDADS while your request job is actually executing, when your request is completed, we delete this information from the system.

If the optional Remote Access information is given, each field will be used to construct the proper FTP or DECnet commands to transfer the requested data to the indicated remote node and directory location.

It should be noted that when you use the remote access method, that *ALL* of the fields on the subject line must be entered, this includes the Data Format field using the word "NONE" when it is appropriate for a project. Please see the following example, there is no Data Format option available for project *ADC*, yet in the subject line, we use the word "NONE", so that the fields remain in their proper order.

REQUEST ADC FLAT NONE EMERALDCITY.GSFC.NASA.GOV|RUBY|SLIPPERS|SPOTS:[DATA]

4.4.1 Destination Directory

The destination directory refers to the directory to which the requested data will be written.

NOTE: The user must have write privilege to the designated directory and sufficient disk quota to include the new files.

4.4.2 Requester Account Transfer Information

You may allow the NDADS automated mail system to place the files in the NDADS Anonymous directory, and the requester then initiates the copying of the files from NDADS to their computer node.

For NSI-DECnet (formerly SPAN), to allow NDADS to copy the requested data files directly to your computer system via default DECnet the following must exist at your site. It requires the requester to set the protection of the destination directory to World write privilege. If this is done, then the username and password should be left blank, however the vertical bars (|) are still required. Please see the example given in the table shown below.

For Internet the use of Anonymous FTP with write privileges allowed is suggested. After allowing write privilege, the username should then be given as "Anonymous" and the password set to the proper value for the requester's computer node. Some examples follow.

Network	Remote Access Information
NSI-DECnet:	NSSDCA TOTO2 WILDTHING SPOTS:[TOTO2.DATA]
Default DECnet:	NSSDCA SPOTS:[TOTO2.DATA]
Internet:	NSSDCA.GSFC.NASA.GOV TOTO2 WILDTHING SPOTS:[TOTO2.DATA]
Anonymous FTP:	NSSDCA.GSFC.NASA.GOV ANONYMOUS ARCHIVES SPOTS:[DATA]

4.4.3 Non-Password Account Transfer Information

There are several ways for users to set up their computer so they do not need to send password information. You will still need to send us the remote node and directory information if you wish NDADS to move the data to your computer.

Under VMS/DECnet, set up a proxy for NDADSA::ARCHIVES to some account on your system. Then send the remote information such as "emeraldcity|||spots:[data]". Your system will categorize this as incoming files from NDADSA::ARCHIVES and treat it as either the default DECnet account (if no proxy) or as the proxied account.

Please note that you should set up the proxy for the nodes: NDADSA::, NDADSB::, NDADSC::, and NDADSD::, because any one of them may be assigned the task of actual transmission of data to your computer.

For anonymous FTP, set your anonymous FTP for incoming (this will depend on your particular operating system and TCP/IP software). Create the proper directories for incoming data. Then send the remote information, such as "emeralcity|anonymous|archives@ndadsa.gsfc.nasa.gov|usr/users/data".

Please note that the "archives@ndadsa.gsfc.nasa.gov" is just the standard reply to the password prompt for anonymous FTP; your software may require something different.

Chapter 5

File Transfer Information and Examples

5.1 FTP File Transfer Example

Shown below is an example a person named RUBY SLIPPERS on computer node EMERALDCITY, doing an FTP transfer of data from the NDADSA ANON_DIR:[IRAS] directory area. Please note that the "binary" option is used, and it is important to remember to set this prior to any transfer of binary data files only. Under FTP, you access the *IRAS* subdirectory within the Anonymous account by typing "cd iras". This is moving the user to the proper anonymous directory so they may transfer their *IRAS* data.

```
emeraldcity: ftp ndadsa.gsfc.nasa.gov
Connected to ndadsa.gsfc.nasa.gov.
220 ndadsa.gsfc.nasa.gov MultiNet FTP Server Process 3.0(12)
Name (ndadsa.gsfc.nasa.gov:ruby): anonymous
331 anonymous user ok.
```

**SEND YOUR E-MAIL ADDRESS (COMPUTER AND USERID)
AS THE PASSWORD.**

```
Password:
230-Guest User EMERALDCITY::RUBY logged into ANON_DIR:[000000]
230 Directory and access restrictions apply
```

```
ftp> cd iras
250 Connected to ANON_DIR:[000000.IRAS].
```

It should be noted that the "lis" command shown here was merely for the purpose of displaying the contents of the directory just connected to; it is not necessary in order to transfer files.

```
ftp> lis
200 Port 17.73 at Host 128.183.10.164 accepted.
150 List started.
```

```
ANON_DIR:[000000.IRAS]
```

```
ZOHF_30_029.DAT;1 574 30-MAR-1992 14:20 [ARCHIVES] (RWED,RWED,RE,RE)
```

```
Total of 574 blocks in 1 file.
226 Transfer completed.
224 bytes received in 0.25 seconds (0.87 Kbytes/s)
```

You must set the "binary" option in FTP before starting the transfer of any file containing binary data. If this is not done, the data will not copy to your computer properly.

```
ftp> binary
200 Type I ok.
ftp> get ZOHF_30_029.DAT
200 Port 17.74 at Host 128.183.10.164 accepted.
150 IMAGE retrieve of ANON_DIR:[000000.IRAS]ZOHF_30_029.DAT;1 started.
226 Transfer completed. 293440 (8) bytes transferred.
local: ZOHF_30_029.DAT remote: ZOHF_30_029.DAT
293440 bytes received in 0.99 seconds (2.9e+02 Kbytes/s)
ftp> close
221 QUIT command received. Goodbye.
ftp> quit
```


Chapter 6

Computer Network Addresses

6.1 NDADS Computer Addresses

For users of the NDADS system who do not have our computer name defined, the DECnet and TCP/IP addresses for our system are shown below.

Computer Name	DECnet Address	TCP/IP Address
NDADS	15611	
NDADSA	15761	128.183.36.17
NDADSB	15762	128.183.36.18
NDADSC	15763	128.183.36.19
NDADSD	15764	128.183.36.20

Chapter 7

Informational and Error Messages

Sometimes even the best-planned systems experience occasional technical difficulties, so we have added this section of possible informational and error messages to help the user understand what ARCHIVES is trying to tell you if your data does not appear.

- No entries found for the entry-id ... of datatype ... in
ndads.david...

The message is telling the requester that a particular entry ID was not found in a particular data base index. For example, this might happen when requesting a IUE low dispersion MELO spectra as MEHI.

This message will also occur every time a request for the union data types of ALL and EXTRACT are requested. NDADS does not know in advance which index to check for these data-types, so it checks all the data base indexes. This message is an attempt to inform users that a given entry-id is not in the various data indexes. Requesters would receive no indication of which entry-ids were not found, nor in which indexes the lookup occurred without this message.

It is possible that the requester has requested an invalid entry-id for example, if the requester wanted the MEHI image LWP07001 and sent the entry-id of LWP7001. The leading zero, when needed, in the image sequence number is important for requesting IUE data.

This message also occurs when the specific data file is not currently available on the NDADS system, and it is not an error message in this instance.

- error mounting IUE_EXT_nnnn

This indicates that some form of optical disk error occurred. This is one of the errors that should not be happening, and we are trying to track down why it may occasionally occur. Hopefully the user will not see this error except under the most extreme circumstances.

- entry ID: ... of data type ... is proprietary

Our records are showing this entry-id/data-type as proprietary, and thus it is releasable only to authorized individuals. This message is informational, and it is given every time the data is requested, regardless of whether or not the user is authorized. Requesters who are authorized, will receive the flagged data.

- failed to copy ... anon_dir:[iue] ...

An additional error message was added as a means of indicating that the data may already be in the staging area. We are working on changing this message to pinpoint which of the possible situations this is indicating; i.e., whether the disk is full or whether the data already exist in the staging area.

Chapter 8

For Further Assistance

If you have any questions or need further assistance, please call or write to:

Ms. Charleen M. Perry
National Space Science Data Center
NASA/Goddard Space Flight Center
Code 633, Building 26/Room G10D
Greenbelt, Maryland 20771

Phone (301) 286-2899
FAX (301) 286-4952
NSI-DECnet = NDADS::PERRY
NSI = PERRY@NDADSA.GSFC.NASA.GOV

